DOCUMENT RESUME

ED 449 996 SE 064 569

AUTHOR Johnson, William L.; Johnson, Annabel M.
TITLE The Theory of Evolution: An Educational Perspective.
PUB DATE 2000-00-00
NOTE 21p.
PUB TYPE Opinion Papers (120)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Biology; *Classification; *Embryology; *Evolution; Higher Education; *Paleontology; Science Education
IDENTIFIERS *Darwin (Charles); Social Darwinism

ABSTRACT

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The Theory of Evolution: An Educational Perspective

Dr. William L. Johnson & Dr. Annabel M. Johnson

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Abstract

The article's thesis is that evolution's intellectual foundations have been steadily eroding and that new findings in embryology, taxonomy, fossil remains, and molecular biology are bringing us very near to a formal, logical disproof of Darwinian claims. The authors begin by discussing the evidence of a prehistoric world, then they discuss knowledge acquisition, the mechanism of evolution, types of evolution, probability and statistics, and doubts about Darwin. The authors conclude with a discussion of social Darwinism and evolution's influence on American education.

Introduction

One has to be continually amazed that so little attention has been given in the literature of our time to the assumptions, weaknesses, failings, and inconsistencies associated with the theory of evolution. There is the widespread illusion that evolution is an established scientific fact; however, nothing could be further from the truth. The evolutionary paradigm is more like a principle of medieval astrology than a serious twentieth century theory.

Darwin's theory of evolution was one of society's jewels, and Darwin himself emerged as the shining star of an era that did not want God or at least felt God was a distant and remote first cause. Science alone would solve all mankind's problems. However, we now see a Western society crying out for values and a clearly defined direction. We see a society that hungers for spirituality. Could these unfulfilled desires be attributed to the

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propagation and advocacy of Darwinian evolution and to a rejection of God. Could these yearnings of the spirit be explained by evolution's failure to answer our most basic questions about life and our place in the cosmos. In this article, the authors want to show that the concept of evolution is in disarray because its assumptions are still largely as enigmatic as when Darwin set sail on the Beagle.

There is little question that the *Origin of Species* (Darwin, 1859) has had more influence on Western culture than any other book of modern times. Not only was it a great biological treatise, but it carried significant implications for present day sociology, psychology, philosophy, economics, history, educational theory, and religion, as well as the natural sciences, both biological and physical. In astronomy and cosmology, it is universally held that everything in the physical universe has gradually, over billions of years, evolved mechanically into its present state. Evolution is viewed as the greatest single unifying principle in all biology (Prosser, 1959). The theory proposes that life evolved gradually over billions of years.

A Prehistoric World

Archaeological findings over the past 200 years show the existence of a vast prehistoric world. Many artifacts from that time are preserved in museums on every continent. In that prehistoric world, birds were the size of small airplanes. From a human perspective, it was an alien, brutal, violent world. The dinosaurs seemed to have lived 120 million years on earth before their extinction 65 million years ago. Tyrannosaurus Rex, "king of the tyrant lizards," weighed seven tons and stood 25 feet tall. It lived in the Cretaceous period 140 million years ago and was probably the most terrifying carnivorous animal of all time. Brontosaurus, "thunder lizard," was 70 feet long and weighted 30 tons. It was

longer than a tennis court and equaled the weight of six elephants. Apparently the earth actually shook when Brontosaurus walked across the landscape.

However, just because scientists have found these fossil remains, does that prove evolution? It seems we are supposed to reach that conclusion. Interestingly, our bacterial DNA strands are 90 percent identical to the dinosaurs, and our genetic structure is almost identical to the apes. In fact, our genes are 98 percent identical to the chimpanzees. Again, are we supposed to conclude that evolution is true based on this information? This certainly seems to be the case.

In the vast prehistoric world, mosses and ferns grew as high as 90 feet. There were foot long cockroaches and dragonflies with 30-inch wingspans. Crocodiles living in the Big Bend in Texas grew as long as 52 feet. In Asia and Europe, rhinos stood 18 feet at the shoulder and weighed 33 tons. In East Africa, fossil remains showed tusked pigs were as large as rhinos. Early sheep stood seven feet. They had horns the length of a midsize automobile. Baboons were as big as gorillas. Apes stood nine feet tall and tipped the scales at 600 pounds. Although there was a vast prehistoric world, that does not prove evolution. Ape-like creatures may have originated in Africa, but that certainly does not prove evolution either.

How We Know What We Know

In this context, let's ask next how we know what we know. First, we learn through the five senses: 85 percent through our eyes; 11 percent through our ears; and 3-4 percent by touch, taste, and smell. One hundred million coded messages a second are sent from the outposts of the five senses to the brain. We also learn through intuition, insight, and sudden awareness, as well as through investigation or experimentation (the scientific

method). We accept authority or revealed knowledge, and finally, we know what we know by rational thought or reason.

Much of what we believe is based on reason. For example, in the late 1600's, Edward Tyson observing chimps in the Straits of Malacca commended that the chimps marched naturally upon their two hind feet. They made use of their two arms and cried exactly like a child. He stated that their whole outward action was so human. But his observation does not prove humans evolved. In October 1838, Darwin wrote that he happened to read Thomas Malthus on population growth and appreciated the struggle for existence which went on everywhere (Darwin, 1888).

Nature's model (process) then is seen in individuals competing for food, shelter, and mates. Birds are devouring insects, wolves are chasing rabbits, and man is hunting animals. Darwin did not believe that there had ever been any revelation. The theory of evolution does leave out God. The theory proposes that life was generated originally from nonliving material, and evolved gradually over billions of years by mindless natural processes.

The Mechanism for Evolution

In Darwin's *Origin of Species*, he proposed that two phenomena were responsible for all changes in life forms. The first was random mutation. The second was natural selection or survival of the fittest (nature rewards those that best conform to its conditions). Darwin's theory did not extend to include the origin of life. He believed that life came from "pre-biotic soup," but he did not press the theory. Darwin knew that his theories were just that. He had self-doubt, especially towards the end of his life

(Darwin, 1860). He admitted that the actual empirical evidence for his theory was insufficient.

Evolution is in reality a house of cards. Colorful charts of the development of life and reconstructed fossil progressions seem very scientific. The evidence for evolution, when presented in this way, seems very convincing. But such does not focus on the weaknesses of the theory of evolution. One glaring weakness is an explanation of how species evolved. Although evolutionists admit they don't adequately understand how evolution happened, that it happened is not negotiable. For them, evolution is one of the "facts" of scientific life. Darwin recognized if evolution progressed slowly across the ages, as he has suggested, we should expect to find evidence of transitional life forms. The fact that no such fossils had been found was, Darwin said, the greatest objection that could be urged against his theory.

If evolution were true, museum shelves should be over-flowing with an immense number of transitional forms. Ninety-nine percent of all work in paleontology has been carried out since 1860, and today about 200 million fossils have been found and classified into about a quarter of a million species (Halford, 1994). But in this vast horde, there are still no adequate fossils that can be considered beyond all doubt transitional forms. Consider the Archaeopteryx fossil found in 1861. It is said that Archaeopteryx is a possible link between reptiles and the ancestors of birds. But no fossil birds have been found that lived in the 30 million years following Archaeopteryx. According to the traditional view of vertebrate evolution, the vertebrates first originated about six hundred million year ago. One hundred million years was supposedly required for an invertebrate to evolve into a vertebrate; yet there are not transitional forms in the fossil record.

George Gaylord Simpson (1953) wrote that the only sort of evolution documented in the fossil record were several instances where a relatively minor morphological transformation could be traced through a convincing series of fossil forms. The original dog-sized horse, *Eohippus*, is said to lead gradually to the modern horse of today. However, the horse series is not as perfect as is commonly assumed. As Simpson pointed out, the single line of gradual transformations from *Eohippus* to *Equus* presented in most recent texts on evolutionary biology is largely apocrypha. Some of the transitions are not represented in the fossil record. This leads to the next discussion.

Types of Evolution

There are two types of evolution. The first is micro evolution, Darwin's special theory. This theory suggests that very small changes occur within the species boundary. This theory of evolution deals with natural selection, and Michael Denton (1986) stated that micro evolution has been proven true without a doubt. New reproductively isolated populations do arise from pre-existing species. The process involves a gradual accumulation of small genetic changes guided mainly by natural selection. However, micro evolution does not allow for changes that cause one species to become another. A dog is still a dog. A Chihouwa may become another "dog species," but it will never become something other than a dog.

The second type of evolution is macro evolution, Darwin's general theory. This theory says that the major divisions in nature (causing distinct species) could have been caused by the same simple sorts of processes described in micro evolution. The potential for variation within species eventually allows one life form to gradually evolve into another

entirely different species. But there is no evidence for this, and it has not been proven. Many know micro evolution is true, and they conclude that macro evolution must be true. However, this is incorrect. Dogs, for example, don't become other animals. It has never been demonstrated that macro evolution does occur. If it cannot be shown that macro evolution occurs, a fundamental premise of evolution is on very shaky scientific ground.

In the 1960's, evolutionists hoped to find a sequence of transitional forms of the genetic code in order to prove macro evolution. They said a genetic code that changed sequentially would support macro changes in life forms. Today, we know that the genetic code is not led up to gradually through a sequence of transitional forms. The sequences of chemical units in proteins and DNA show no trace of the family tree that evolutionists teach. Nature, in sum, appears to be profoundly discontinuous (ibid., 1986).

Probability and Statistics

Darwin was convinced that, given enough time, small changes accumulating over time could account for the transformation of one species into another. Darwin proclaimed it was all a matter of probability. After all, the laws of probability do not preclude any possibility from occurring. Statistically speaking, there is always the chance of something happening. For example, if one were to drive a truck full of coins into an auditorium and dump them of the floor, the coins could all come up heads. However, it is not probable that such would ever happen.

The real question then is not whether or not evolution is possible but whether or not it is probable. The Darwinists claim that time is on their side. They note that the earth is nearly five billion years old and argue that such was enough time for chance mutation to account for the evolution of the entire complex of life in all its myriad forms. However,

even considering the age of the universe, Fred Hoyle (1960) wrote that this was not sufficient time for the chance of evolution of the nucleic codes for each of the 2,000 genes that regulate the life processes of the more advanced mammals. In June of 2000, researchers announced that they had sequenced the human genome of the 3.1 billion base pairs, the rungs that make up the ladder-like double helix of DNA. Traditionally it had been assumed that humans had approximately 60,000 to 100,000 genes, and that all mammals had a similar number though not necessarily the same genes.

In February of 2001, the Human Genome Project, a collaboration of 20 scientific groups form the United States, Britain, France, Germany, China and Japan, published its genomic sequence findings. From the research, it appears that the human genome contains between 30,000 and 40,000 genes, much fewer than earlier estimates. The group also found that the DNA segments that do not contain gene sequences likely play a large role in the shuffling of genes and controlling gene expression. Such DNA, approximately 95% of the total human genome, has always been referred to as "junk DNA" because of the inability to determine its function. Finally, the sequence results have allowed scientists to identify more than 1.4 million single nucleotide polymorphisms (SNP's). These are single molecular variations in the 3-billion molecule genome that contribute to the differences among people. Scientists hope to study the SNP's and eventually understand the differences people have to disease susceptibility and response to medication.

Pertaining to DNA, research has shown that each gene is a sequence of DNA about one thousand nucleotides long, and each nucleotide consists of a sugar, a nitrogen containing base, and a phosphate group. The nucleotides in a DNA chain are linked together

through their phosphate groups. According to Hoyle (1960), the probability that the chance occurrence of random mutations could, through the long process of time, accidentally create the complex ordered relationships expressed through the genetic codes could be likened to the probability that a tornado sweeping through a junkyard might assemble a Boeing 747 (Woodward, 1988).

In his book, *Algeny,* Jeremy Rifkin (1984) noted that in the world of mathematics, events whose probability occur within the range of $1/10^{30}$ to $1/10^{50}$ are considered impossible. In terms of information alone, it is estimated that a one-cell bacterium of *E. coli* contains the equivalent of 100 million pages of *Encyclopedia Britannica.* There are an estimated four million instructions in the DNA of *E. coli.* Even in the "simplest" organisms, the information standard is enormously high (Hoyle & Wickramasinghe, 1981). A tiny one-cell organism is definitely something to contend with. George Gaylord Simpson (1967) wrote that the evolutionary journey leading up to the simpiest one-cell organism was as impressive as the rest of the evolutionary trip put together.

Apparently, the mathematical odds more than agree with Simpson's analysis. In fact, according to the odds, a one-cell organism is so complex that the likelihood of its coming together by sheer accident and chance is computed to be around $1/10^{78,000}$. Remember, nonpossibility, according to statisticians, is found in the range of $1/10^{30}$ to$1/10^{50}$. The odds of a single-cell organism ever occurring by chance mutation are so far out of the ball park as to be unworthy of even being considered on a statistical basis. Such an occurrence, we might add, would be indistinguishable from a miracle. When one moves from the single-cell organism to higher, even more complex forms of life, the statistical probability shifts from to ridiculous to preposterous. Huxley, for example, computed the

probability of the emergence of the horse as $1/10^{3,000,000}$ (ibid., p.154).

According to Denton (1986), the possibility of life arising suddenly on earth by chance is infinitely small. Proteins are strings and coils of between 200 and 1000 amino acids. To get a cell by chance would require at least one hundred functional proteins to appear simultaneously in one place. That is one hundred simultaneous events each of an independent probability which could hardly be more than 10^{-20} giving a maximum combined probability of 10^{-2000}. Hoyle and Wickramasinghe (1981) provided a similar estimate of the chance of life originating, assuming functional proteins to have a probability of 10^{-20}. By itself, this small probability could be faced, because one must contemplate not just a single shot at obtaining the enzyme, but a very large number of trials such as are supposed to have occurred in an organic soup early in the history of the earth. The trouble is that there are about two thousand enzymes, and the chance of obtaining them all in a random trial is only one part in $10^{40,000}$ an outrageously small probability that could not be faced even if the whole universe consisted of organic soup. Wysong (1976) wrote that the most basic living organism would require 124 proteins of properly sequenced amino acids. The odds of even the simplest living organism forming by chance was $10^{-78,436}$. Furthermore, the total probability of the chance formation of the proteins and DNA required by the smallest self-replicating entity is $10^{-167,626}$ (Hadd, 1979).

The Darwinian claim that all the adaptive design of nature has resulted from a random search, a mechanism unable to find the best solution in a game of checkers, is one of the most daring claims in the history of science. But it is also one of the least substantiated. No evolutionary biologist has ever produced any quantitative proof that the designs of

nature are in fact within the reach of chance (Denton, 1986). Would we believe, for example, that random shuffling of bricks would build a castle or a Greek temple? In the face of mounting evidence, more scientists are abandoning evolution.

Doubts About Darwin

In his Moody magazine article "Doubts about Darwin," Thomas Woodward (1988) provided some very interesting information about Colin Patterson, then senior paleontologist at the British Museum of Natural History in South Kensington, London. Patterson wrote: "For the past 18 months or so I've been kicking around non-evolutionary or even anti-evolutionary ideas. For over 20 years, I had thought I was working on evolution in some way. One morning I woke up and something had happened in the night, and it struck me that I had been working on this stuff for more than 20 years, and there was not one thing I knew about it. It's quite a shock to learn that one can be misled for so long. For the last few weeks, I've tried putting a simple question to various people and groups: Can you tell me anything you know about evolution? Any one thing that is true?" (ibid., p. 18).

Patterson explained that recent advances in biology and other sciences have dealt heavy blows to evolution and that the whole thing is coming apart at the seams. He stated that modern science assumes that evolution has replaced creation, and he himself made that assumption until 1980. He notes that he woke up and realized that all his life he had been duped into believing evolution (ibid., p. 20). Patterson noted one of the main reasons for his skepticism was that there were no real transitional forms anywhere in the fossil record. Transitional fossils would be in-between forms, such as fish developing arms and legs and turning into land animals.

Three former evolutionists with doctorates in chemistry, materials science, and geochemistry wrote that first comprehensive critique of chemical evolution, *The Mystery of Life's Origin: Reassessing Current Theories* (Thaxton, Bradley & Olsen, 1984). With pages of mathematical equations and chemical formulas, the book dealt serious blows to the theory that life started by chance. The book was devastating to the relaxed acceptance of current theories of chemical evolution.

Michael Denton's (1986) book *Evolution: A Theory in Crisis* shows that evolution's intellectual foundations have been steadily eroding and that only a philosophical "will to believe" in Darwin remains. Denton wrote that new findings in biology are bringing us very near to a formal, logical disproof of Darwinian claims. Citing evidence from embryology, taxonomy, fossil remains, and molecular biology, Denton showed that Darwin's grand claim that all forms of life are interrelated and evolved from a single cell has not been supported my one empirical discovery since 1859 when Darwin published his book.

Murray Eden, professor emeritus at the Massachusetts Institute of Technology, stated Denton's book should be made required reading for everyone who believes what he was taught in college about evolution (Woodward, 1988, p. 22). Denton showed that there is no fossil evidence of any major changes between different kinds of animals but also that it is impossible to imagine how these radical changes could have happened step by step through natural selection. Denton wrote: "There is little doubt that if this molecular evidence had been available one century ago, it would have been seized upon with devastating effect by the opponents of evolution like Agassiz [(1835-1910) a Harvard

biologist who opposed Darwin's theory], and the idea of organic evolution might never have been accepted" (ibid., p. 22). According to Denton, science has so thoroughly discredited Darwinian evolution that it should be discarded.

Abandoning Darwin

Despite the evidence against evolution, most scientists will probably not abandon Darwin. Many will continue to belittle creationism as the equivalent of believing in a flat earth and continue to teach evolution as a basic fact on biology. Evolution fit the political-social model that people wanted in Darwin's day, and it was therefore encouraged and accepted. That era felt it did not need God. All of life's mysteries could be explained by natural law. No further proof has been given to support evolution. Crucial problems, that Darwin himself saw, are virtually never discussed. His theories are just accepted as scientific fact.

Despite the obvious holes in evolutionary theories, most scientists still adhere to evolution for a variety of reasons. First, they cannot accept the concept of the supernatural. So they continue looking for naturalistic solutions. Second, the idea of Creation introduces a discontinuity in the chain of causation. Scientists want only natural laws. Third, they feel that belief in Creation might destroy the scientific quest for knowledge. Even as the alchemists labored to change base metals into gold, the biologists of a later era labored to change "monkeys into men." From an historical perspective, the whole thing certainly seems ludicrous.

Social Darwinism

As mentioned earlier, however, Darwin's book has had more influence on Western culture than any book of modern times. The concept of evolution clearly under girds modern society. It is this influence on society and daily life that is certainly profound. Darwinism applied to society is referred to a "social Darwinism." The argument advanced is that natural science (nature) teaches that the concepts of evolution should be applied to society.

Karl Marx read the *Origin of Species* in 1860 and wrote that Darwin's book was very important and served him as a basis in natural science for the struggle in history. He sought permission to dedicate his world famous book, *Das Kapital,* to Charles Darwin; however, Darwin declined the offer. Mussolini mocked at perpetual peace, lest it should hinder the evolutionary process (Clarke, 1948). The idea was that nations compete in war.

In a speech in Nuremberg in 1933, Hitler stated: "Thus there results the subjection of a number of people … based simply upon the right of the stronger, a right which, as we see it in Nature, can be regarded as the sole conceivable right, because it is founded on reason." Hitler explained that it was for this reason that he hated communism. He noted: "Communism is not a higher stage of development; rather it is the most primitive form of life, the starting point." The Germans were the higher race, destined for a glorious evolutionary future. For this reason, it was essential that the Jews should be segregated; otherwise, mixed marriages would take place. Were this to happen, all nature's efforts "to establish an evolutionary higher stage of being may thus be rendered futile." Hitler

concluded: "He who would live must fight. He who does not wish to fight in this world where permanent struggle is the law of life has not the right to exist. To think otherwise is an insult to nature." (ibid., 1948). The racism and militarism of Hitler and Mussolini were in large measure built on the philosophical base established in the 19th century by Nietzsche (1844-1900) and Haeckel (1834-1919), both of whom were leading promulgators of Darwinian ideas applied to society.

We see many examples of social Darwinism in our Western society. Historically, European school systems have provided many more guidance programs than their counterparts in North America. When the American educational system was being formalized in the 1800's, that group of educators felt the school system should not interfere with nature. Only the fittest should survive. If a student did not know to seek career guidance, nature was selecting that person to fail. It was argued that American education should let the laws of natural selection operate in the public schools. Therefore, few guidance programs were funded. Grading on the curve is another example of social Darwinism. From that perspective of grading, the number of A's should equal the number of F's; the number of B's should equal the number of D's; and the rest of the class should receive C's. The criterion referenced grading system does not have students competing against each other for grades. Students are graded in terms of their mastery of class material.

Summarizing the principles of social Darwinism: (1) human society is a product of some sort of struggle for existence or survival, (2) the correct development of social life and institutions is shaped by such a struggle, (3) natural selection operates in some way to

determine survival, (4) survival is evidence of special fitness to meet the conditions of life, and (5) man must get in line with the forces of evolution and work with them.

Evolution is clearly a philosophy and a product of reason. It is not scientific. For anything to come under the umbrella of the scientific method, it must be observable, testable, repeatable, and falsifiable. The evolutionary model cannot be placed in this framework. For example, one cannot design an experiment to test evolutionary ideas. One cannot repeat the process. In other words, science is limited to what can be known through man's empirical senses.

The evolutionary model justified human nature very well. The model also justified individuals in any of their life's struggles, even though the struggles involved a denial of Christ's teachings and Christian virtues. Indeed competition may bring about discovery and invention quicker than other models, but it often destroys people's health, their marriages, lives, and peace of mind. In competition, there is often an hostile desire, frequently followed by action, to attack, hurt, or prevent others from succeeding. Success is seen as finite, and a person's gain comes at the expense of others.

However, a nonhostile nondestructive competitive spirit can be a vital spark that ignites energy to yield indisputable and beneficial rewards. But this spirit requires a culture of trust, sharing, and appreciation where people willingly help, encourage, and support one another (Johnson, 1999). Resources, information, opportunity and support are forms of power within organizations. Innovation and productivity are fostered in cultures that promote trust, sharing, communication, community, and access to power (Johnson & Bruhn, 2000). In cultures where this is not the case, competition can elicit abominable

behavior: Man attacks man; party fights party; groups attack groups; and nations struggle against nations. That model weakens the world.

Natural selection and survival of the fittest are linear ways of thinking that ultimately are very misleading in the social order. Unfortunately, competition, natural selection, and survival of the fittest are not presented as diverse observations among others, but as universal laws. Instead of competing with each other and distancing ourselves from one another, might we promote a sense of community and distance ourselves from the forms of competition that embrace fear, manipulation, exploitation, segregation, and intimidation. Performance, achievement, service, productivity, and cooperation are wonderful alternatives to competitive cultures of hostility, anguish, and despair.

Conclusion

The triumph of evolutionary ideas meant the end of the traditional belief in the world as a purposeful created order, and God's will was replaced by the capriciousness of a roulette wheel. The acceptance of this great claim and the consequent elimination of God from nature has played a decisive role in the secularization of Western society. Darwinian theory broke man's link with God and set him adrift in a cosmos without purpose or end. Darwinism removed the whole idea of God as the creator from the sphere of rational discussion. We are the historical heirs of this legacy. Both the biological underpinnings and the social and political accents of Darwinian theory are in disarray. We've accepted a myth, and in the process, we have denied ourselves answers to our most basic psychological and philosophical questions. Perhaps it's time we left this prison. Perhaps it's time we set sail on another ship. Although the principles and social extensions of evolutionary thought are pervasive throughout the world, we can

certainly hope a discussion of these ideas will encourage individuals to carefully consider the issues addressed in this material.

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About the Authors:

William L. Johnson , Ed.D., NCC, LMFT is Executive Vice President at Texas-based Digital Documentation Systems, Inc. Having consulted for government and industry, he has spoken at over 50 conferences and has authored over 200 publications. He has been quoted numerous times on national news.

Annabel M. Johnson, Ph.D. is a researcher and writer based in Lindale, Texas. She is a consultant, conference speaker, mom and author of over 100 publications

The authors can be reached at wljabj@aol.com.